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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RONALD D. MCCALLISTER, BRUCE A. COCHRAN, and
BRADLEY P. BADKE

Appeal 2009-014375
Application 10/718,505
Technology Center 2600

Decided: March 18, 2010

Before JOHN A. JEFFERY, ROBERT E. NAPPI, and MARC S. HOFF,
Administrative Patent Judges.

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the rejection of claims 2 through 11, 13 through 23.

We affirm.

INVENTION

The invention is directed to a constrained envelope digital communications circuit. Abstract. Claim 2 is reproduced below:

2. A constrained-envelope digital communications transmitter circuit comprising;
 - a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;
 - a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal;
 - a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to average amplitude ratio;
 - a substantially linear amplifier configured to amplify said second modulated signal; and
 - a delay element coupled between said modulated-signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal.

REFERENCES

Hedberg US 6,266,320 B1 Jul. 24, 2001

Thomas May & Hermann Rohling (“May”), “Reducing the Peak-to-Average Power Ratio in OFDM Radio Transmission Systems,” 48th IEEE Vehicular Technology Conference, pp. 2474-78, May 1998.

REJECTIONS AT ISSUE

The Examiner has rejected claims 21 through 23 under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The Examiner’s rejection is on page 3 of the Answer.¹

The Examiner has rejected claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23 under 35 U.S.C. § 102(a) as being anticipated by May. The Examiner’s rejection is on pages 4 through 6 of the Answer.

The Examiner has rejected claims 6, 7, 17, and 19 under 35 U.S.C. § 103(a) as being unpatentable over May in view of Hedberg. The Examiner’s rejection is on pages 7 and 8 of the Answer.

ISSUES

Rejection of claims 21 through 23 under 35 U.S.C. § 112, first paragraph

Appellants argue on pages 6 and 7 of the Appeal Brief that the Examiner’s rejection of claims 21 through 23 under 35 U.S.C. § 112, first paragraph is in error. Appellants argue that the skilled artisan would

¹ Throughout the opinion we refer to the Answer mailed November 26, 2008.

understand from the disclosure, in column 11, lines 46 through 54 of the Specification that a fixed delay “would synchronize the signal streams 74 and 184 at combiner 110.” Brief 7.

Thus, Appellants’ contentions with respect to claims 21 through 23 under 35 U.S.C. § 112, first paragraph present us with the issue: does Appellants’ Specification demonstrate that Appellants, at the time of filing, possessed the claimed invention with a fixed delay.

Rejection of claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23 under 35 U.S.C. § 102(a)

On pages 7 through 15 of the Appeal Brief, Appellants argue that the Examiner’s rejection of claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23 under 35 U.S.C. § 102(a) is in error.² Appellants assert that the Examiner relied upon inventor Ronald McAllister’s submission signed July 5, 2005, to show that May inherently uses a delay. Brief 9. Appellants disagree with the statements made in the inventor’s submission, and instead rely upon Neal Birch’s³ declaration (declaration signed May 17, 2006, hereinafter “Birch I”) and assert that McAllister’s statements are contrary to how a skilled artisan would understand the teachings of May. Brief 10. Appellants also assert that inventor McAllister is not impartial and that the Examiner improperly placed weight on the evidence. Brief 11 and 12. Appellants also assert, citing Birch I, that the teachings of May do not

² Appellants’ arguments address these claims as a group. Accordingly we select claim 2 as representative of the group.

provide an enabling disclosure of how to delay the input signal. Brief 10 and 11. Further, Appellants argue that, contrary to the statements by inventor McAllister in his second submission (signed August 16, 2007), May does not teach a linear amplifier as claimed. Appellants rely on a second declaration by Neal Birch declaration (signed June 5, 2007, hereinafter “Birch II”) to support this assertion. Brief 13.

Thus, Appellants’ contentions present us with two issues:

- 1) Does the evidence support the Examiner’s finding that May inherently teaches a delay as recited in claim 2?
- 2) Does the evidence support the Examiner’s finding that May teaches a linear amplifier?

Rejection of claims 6, 7, 17, and 19 under 35 U.S.C. § 103(a).

Appellants argue on page 16 of the Appeal Brief that May does not teach a linear amplifier as recited in claims 6, 7, and 17. Further, Appellants state that claims 6 and 17 include a limitation directed to use of code division multiple access (CDMA) modulation. Appellants argue that the Examiner’s rationale to combine May (which does not teach use of CDMA) with Hedberg (which does teach use of CDMA) does not “pass muster under the standard set in the Supreme Court in KSR.” Brief 16.

Thus Appellants’ contentions with respect to the Examiner’s rejection of claims 6, 7, 17, and 19 present us with two issues:

³ Neal Birch’s declarations are provided as expert evidence (see items 2 in both declarations, and qualifications in items 15 through 31 in the May 2006 declaration) and he is not identified as a party to the application on appeal.

1) Does the evidence support the Examiner's finding that May teaches a linear amplifier?

2) Has the Examiner provided sufficient rationale to support a conclusion of obviousness?

PRINCIPLES OF LAW

The written description requirement serves "to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him; how the specification accomplishes this is not material." *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976). In order to meet the written description requirement, Appellants do not have to utilize any particular form of disclosure to describe the subject matter claimed, but "the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012 (Fed. Cir. 1989). Put another way, "the applicant must . . . convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention." *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991) (emphasis in original). Finally, "[p]recisely how close the original description must come to comply with the description requirement of § 112 must be determined on a case-by-case basis." *Eiselstein v. Frank*, 52 F.3d 1035, 1039 (Fed. Cir. 1995) (quoting *Vas-Cath*, 935 F.2d at 1561).

Having acknowledged that certain claimed elements are taught by the prior art, Appellants cannot now defeat a rejection by asserting that the cited references fail to teach or suggest these elements. *See Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1570 (Fed. Cir. 1988) ("A statement in

a patent that something is in the prior art is binding on the applicant and patentee for determinations of anticipation and obviousness.”); *In re Nomiya*, 509 F.2d 566, 571 n.5 (CCPA 1975) (It is a “basic proposition that a statement by an applicant, whether in the application or in other papers submitted during prosecution, that certain matter is ‘prior art’ to him, is an admission that that matter is prior art for all purposes . . .”).

On the issue of obviousness, the Supreme Court has recently stated that “the obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). Further, the Court stated “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416. “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.* at 419-420.

FINDINGS OF FACT

1. Inventor Ronald D. McCallister has admitted that “May’s approach inherently uses a delay.” Inventor’s Submission signed July 5, 2005.⁴

⁴ We note that this inventor’s submission references companion patent application 10/718,507. This submission, however, has been acknowledged by Applicants. See arguments presented on May 18, 2006 and entered in the record by the Examiner on July 18, 2007.

2. Inventor Ronald D. McCallister has admitted that in the context of the May disclosure, one skilled in the art would recognize that the amplifiers are linear. Inventor's Submission received August 16, 2006.⁵
3. Appellants presented a declaration under 37 C.F.R. 1.132 stating that "the delay in May to make 'the pulse peak and the signal peak ... time-coincident' would be a variable delay." Birch I, item 11.
4. Appellants presented a declaration under 37 C.F.R. 1.132, stating that McCallister's representation of May's teaching regarding using a linear amplifier is a mischaracterization. Birch II, item 8.
5. Birch states that "the amplifier described in May is modeled as an 'ideal limiter' with normalized . . . output." Birch II, item 9
6. Birch states that amplifiers such as used in May are "non-linear" amplifiers such as "clipping amplifiers" or "saturation amplifiers." Birch II, item 10.
7. Birch states that May's system involves performing corrections based upon the characteristics (clipping threshold of the non-linear amplifier) and contrasts this with the claimed invention, which makes use of a substantially linear amplifier. Birch II, items 11-14.

⁵ We note that this inventor's submission references companion patent application 10/718,507. However, this submission has been acknowledged by Applicants. See arguments presented on June 11, 2006 and entered in the record by the Examiner on July 18, 2007.

8. May states that “the maximal output power of the amplifier will limit the peak amplitude of the signal.” Further, May states that “[t]his means that the signal is amplified linearly up to a maximal input amplitude A_0 and larger amplitudes are limited to A_0 Based on this assumption, we also model the amplifier as an ideal limiter with a threshold A_0 ” Page 2474, second paragraph of “I. Introduction” and first paragraph of “II. Proposals in the Literature.”

ANALYSIS

Rejection of claims 21 through 23 under 35 U.S.C. § 112, first paragraph

Appellants’ arguments have not persuaded us that the Appellants’ Specification provides written description for the use of a fixed delay as recited in claims 21 through 23. Appellants’ arguments cite to column 11, lines 46 through 54 of the Specification and assert that the skilled artisan would recognize that a fixed delay is being described. Brief 6 and 7. While we concur that the cited portion of Appellants’ Specification recites use of a delay, this citation does not identify that the delay is fixed. Further, we note that Appellants have provided no definition of what is meant by a fixed delay⁶ upon which we could compare the teachings of the Specification. Thus, we are not persuaded that Appellants’ Specification demonstrates that Appellants, at the time of filing, possessed the claimed invention with a

⁶ We note that the term “fixed delay” is a relative term, and Appellants’ Specification by not discussing a fixed delay has not identified to what reference the delay is fixed.

fixed delay. Accordingly, we sustain the Examiner's rejection of claims 21 through 23 under 35 U.S.C. § 112 first paragraph.

Rejection of claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23 under 35 U.S.C. § 102(a)

First issue.

We concur with the Examiner's findings that May inherently teaches a delay as recited in claim 2. Claim 2 recites a delay element to delay a first signal into synchronism with a constrained bandwidth signal. Thus, Appellants' arguments on page 11 of the Appeal Brief and pages 1 and 2 of the Reply Brief directed to a use of a fixed delay in May are not commensurate in scope with representative claim 2. Further, as identified by the Examiner on page 5 of the Answer and pages 6 and 7 of the Final Rejection dated March 25, 2008, inventor McCallister has admitted that May inherently includes a delay as claimed. We concur with the Examiner's finding. Fact 2. Having made this admission, Appellants cannot now assert that these features are not taught by the prior art. *See Advanced Micro-Devices, Inc.* at 1570. Further, the declaration of Birch also states that May teaches a delay. Fact 3. Thus, we find ample evidence to support the Examiner's finding that a delay is inherent in May.

Appellants' arguments and evidence that McCallister's statements are to be construed as biased, while informative, have no bearing on this determination. Contrary to Appellants' arguments on pages 9, 11, and 12 of the Appeal Brief, McCallister's statements are not that of a witness, but rather those of a *party*. As such, Appellants are bound by them. Additionally, even if we were to consider the Birch declaration as evidence

which could somehow to overcome an inventor's admission (a finding we do not reach), Appellants' arguments, on pages 10 and 11 of the Appeal Brief, directed to May not providing an enabling disclosure are still not persuasive. Birch's statements 13 and 14 in the May 17, 2006 declaration merely summarily conclude that undue experimentation would allegedly be required to make May's device. Among other things, Appellants have not made a showing which applies the *Wands* factors (*see In re Wands*, 858 F.2d 731 (Fed. Cir. 1988)) to corroborate Birch's allegation that May's disclosure is non-enabling. Thus, even if a disclosure such as Birch's could overcome inventor McCallister's admission, Appellants have not provided the requisite evidence to prove the issues asserted.

For the foregoing reasons, Appellants' arguments have not persuaded us that the Examiner erred in finding that May inherently teaches a delay as recited in claim 2.

Second issue.

We concur with the Examiner's findings that May teaches a "substantially linear amplifier," as recited in claim 2. The Examiner has identified on page 5 of the Answer, and pages 6 and 7 of the Final Rejection dated March 25, 2008, that the inventor McCallister has admitted that May teaches a linear amplifier. We concur with this finding by the Examiner. Fact 3. As discussed above with respect to the first issue, having made this admission, Appellants cannot now assert that these features are not taught by the prior art. Thus, we consider Appellants to be bound by McCallister's statements, and the declaration of Birch is insufficient to show that the features are not taught by the prior art.

Further, even if we were to consider the declaration from Birch as evidence which could somehow overcome an inventor's admission (a finding we do not reach), we are still not persuaded of error. The Examiner found that May teaches a linear amplifier in that the signal is linearly amplified up to a maximum (saturation point) and, as such, is a linear amplifier. Answer 5 and 10. Thus, the Examiner found that the amplifier in May is linear up to the saturation point, and then becomes non-linear. It is the linear operation of the amplifier that the Examiner finds that meets the claimed amplifier. We concur with the Examiner's finding that May teaches linear amplification up to the saturation point. Fact 8. We do not find that the scope of the claim 2 limitation of a linear amplifier is defines over an amplifier with a linear amplification region. We note that statement 9 in the June 5, 2007 declaration identifies that the amplifier is "modeled" as an ideal limiter and in statement 10 discusses an ideal limiter. However, Birch has not presented evidence that the operation of the amplifier in the linear region does not meet the claimed linear amplifier.

For the foregoing reasons, Appellants have not persuaded us of error in the Examiner's finding that May teaches a linear amplifier as recited in claim 2.

Claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23

As neither of the two issues raised by Appellants' arguments have persuaded us of error in the Examiner's rejection of representative claim 2, we sustain the Examiner's rejection of claims 2 through 5, 8 through 11, 13 through 16, 18, and 20 through 23 under 35 U.S.C. § 102(a).

Rejection of claims 6, 7, 17 and 19 under 35 U.S.C. § 103(a).

First issue.

Appellants' arguments have not persuaded us that May does not teaching a linear amplifier as recited in representative claim 6. Claim 6 is similar to claim 2 in that it recites "a substantially linear amplifier." Appellants' arguments directed to this limitation rely upon the same rationale as discussed *supra* with respect to claim 2. As discussed *supra*, Appellants are bound by the admissions of inventor McCallister with respect to this limitation. Further, even if were to consider the declaration from Birch as evidence which could somehow overcome an inventor's admission, we are still not persuaded of error. Thus, Appellants' arguments directed to the first issue have not persuaded us of error in the rejection of claims 6.

Second issue.

Appellants' arguments have not persuaded us that the Examiner's rationale to support the finding of obviousness is insufficient. Appellants argue that the Examiner's rationale is conclusory. Appeal Brief 17, Reply Brief 3. The Examiner states that "May teaches transmitting the signals simultaneously using a plurality of codes. It [May] does not explicitly teach that a CDMA modulator is used. However, as evidenced by Hedberg et al. it is well known in the art to use a CDMA modulator to generate a plurality of code channels." Answer 8. Further, the Examiner states:

[I]t is readily apparent to one skill [sic] in the art that both the disclosures of May and Hedberg relate to Peak-to-average power ratio reduction therefore both references are compatible with each other.

Hedberg at col. 2, lines 24-25, teaches CDMA systems generate high peak to average power ratio if not properly corrected can lead to degradation of the efficiency of the transmitted power amplifier.

Answer 11.

Initially, we note that the Examiner's findings that Hedberg teaches the use of CDMA, that both May and Hedberg are concerned with power ratio reduction, and that May teaches transmitting using a plurality of codes, are uncontested. As such, we consider these undisputed facts tantamount to admissions, as any arguments directed to these findings are waived. We consider the Examiner's rationale relying on these facts to be more than conclusory statements. Rather, the Examiner has shown that Hedberg teaches that it was known that CDMA had a problem of generating high peak to average power ratio, and that May teaches a solution to reduce the power ratio. Answer 11. Thus, we consider the Examiner to have properly shown that the subject matter would have been obvious, as the Examiner has shown there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the claims. Thus, Appellants' arguments directed to the second issue have not persuaded us of error in the rejection of claims 6.

Claims 6, 7, 17, and 19

As neither of the two issues raised by Appellants arguments have persuaded us of error in the Examiner's rejection of representative claim 6, we sustain the Examiner's rejection of claims 6, 7, 17, and 19 under 35 U.S.C. § 103(a).

CONCLUSION

Appellants have not persuaded us of error in the Examiner's rejections of claims 2 through 11 and 13 through 23.

ORDER

The decision of the Examiner to reject claims 2 through 11 and 13 through 23 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2009-014375
Application 10/718,505

AFFIRMED

ELD

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